

# Work Order ID 82639

April-04-12 10:51:35 AM

**\*82639\***

Page 1

Item ID: D4276-1

Accept

**\*N900040100\***

Setup Start

**\*NS1\***

Revision ID:

Item Name: Aft Beam

Stop

**\*NS2\***

Start Date: 04/04/2012 Start Qty: 4.00

**\*4\***

Cust Item ID:

Required Date: 30/04/2012 Req'd Qty: 4.00

**\*4\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/04/04

Tooling:

Date:

Run Start

**\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop

**\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr             |                      |         |        |              |               |               |                  |                |
| D4276                          | A                        |                      |         |        |              |               |               |                  |                |

100

0.00

**\*100\***

BAND SAW

Bandsaw

Memo

0.00

Jeaspa Bandsaw

Cut Blank to 36.630"

Batch: 120603 and 121380

FK 12/05/12

4

110

0.00

**\*110\***

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine per folio FB007

DWG REV: A

FOLIO REV: A

FK 12/05/14

4

2- deburr rough edges

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 82639

April-04-12 10:51:35 AM

**\*82639\***

Page 2

Item ID: D4276-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
 Revision ID: Stop **\*NS2\***  
 Item Name: Aft Beam  
 Start Date: 04/04/2012 Start Qty: 4.00 **\*4\*** Cust Item ID:  
 Required Date: 30/04/2012 Req'd Qty: 4.00 **\*4\*** Customer:  
 Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
 QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                      | Operation<br>Description                            | Set Up/<br>Run Hours | Tool ID | Tool #       | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|---|---|----------------------|---------|--------------|--------------|---------------|---------------|------------------|----------------|
| 120<br><b>*120*</b><br>QC<br>Quality Control        | QC2- Inspect parts off machine FAI/FAIB<br><br>Memo | 0.00<br><br>0.00     |         | FK 12/05/14  |              | 4             | 0             |                  |                |
| 130<br><b>*130*</b><br>QC<br>Quality Control        | QC8- Inspect parts - second check<br><br>Memo       | 0.00<br><br>0.00     |         | and 12/05/15 |              | 4             | 0             |                  |                |
| 140<br><b>*140*</b><br>HandFinish<br>Hand Finishing | Chemical Conversion Coat per QSI005 4.1<br><br>Memo | 0.00<br><br>0.00     |         |              |              | (4) HG        |               | 12-5-15          |                |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |  |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |    |      |     |                                     |                          |  |
|      |      |                    |    |      |     |                                     |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

# Work Order ID 82639

April-04-12 10:51:35 AM

**\*82639\***

Page 3

Item ID: D4276-1 Accept **\*N900040100\*** Setup Start **\*NS1\***  
Revision ID: Stop **\*NS2\***  
Item Name: Aft Beam  
Start Date: 04/04/2012 Start Qty: 4.00 **\*4\*** Cust Item ID:  
Required Date: 30/04/2012 Req'd Qty: 4.00 **\*4\*** Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start **\*NR1\***  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop **\*NR2\***

| Sequence ID/<br>Work Center ID                                     | Operation<br>Description  | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp  |
|--|---|----------------------|---------|--------|--------------|---------------|---------------|------------------|-----------------|
| 145<br><b>*145*</b><br>Powdercoat<br>Powder Coating<br><br>M121134 | White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum<br><br>Memo<br>MASK AS PER DWG | 0.00<br>0.00         |         |        |              | 4X            | ✓             |                  | M-L<br>12/05/16 |
| 150<br><b>*150*</b><br>QC<br>Quality Control                       | QC3- Inspect Part Finish<br><br>Memo  | 0.00<br>0.00         |         |        |              | H             | ✓             |                  | B/L 12-5-16.    |
| 180<br><b>*180*</b><br>Packaging<br>Packaging                      | Identify as per dwg & Stock Location<br><br>Memo                            | 0.00<br>0.00         |         |        |              | 4X            |               |                  | SP<br>12-5-17   |

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |  |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |    |      |     |                                     |                          |  |
|      |      |                    |    |      |     |                                     |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

**\*82639\***

Page 4

**\*N900040100\***

Setup Start \*NS1\*

Stop \*NS2\*

**Cust Item ID:**

**\*4\***

**\*4\***

**Customer:**

**Reference:**

Run Start \*NR1\*

Stop **\*NR2\***

**Insp.**  
**Stamp**

0.00

\*190\*

QC

## Memo

0.00

## Quality Control

12/5/17 ~~4~~  
mf  
12-05-17

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |  |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |    |      |     |                                     |                          |  |
|      |      |                    |    |      |     |                                     |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries



# Picklist Print

April-04-12 10:51:39 AM

Page 1

Work Order ID: 82639

\*82639\*

Parent Item: D4276-1

\*D4276-1\*

Parent Item Name: Aft Beam

Start Date: 04/04/2012

Required Date: 30/04/2012

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP REV:A NEW ISSUE 10-11-17 JLM VERIFIED BY:DD IPP rev:B  
10.12.02 AS PER DWG REV.A DD verf:EC

| Component Item ID/<br>Item Name | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued | Status |
|---------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|----------------|--------|
| M6061T6B1.000X04.00<br>0        |                        | Purchased     | No          |                     |                  | 100             | f                  | 43.0140        | 3.052       | 12.85053     |               |                |        |

\*M6061T6B1 000X04 000\*

6061-T6 Bar 1.00 x 4.00

\*\*

| Location | Loc Qty | Loc Code |
|----------|---------|----------|
| MAT004   | 11.1    |          |
| 116808   | 0.787   |          |
| 118400   | 15.003  |          |
| 119346   | 2.554   |          |
| 120243   | 1.57    |          |
| 120603   | 11.1    |          |
| 120866   | 12      |          |
| 121380   |         |          |

6.4255

6.4255

F.k. 12/05/12

| W/O: |      | WORK ORDER CHANGES |    |      |     |                                     |                          |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |    |      |     |                                     |                          |
|      |      |                    |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                             |                                 |                |                           |                       |                          |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng        | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |
|      |      |                                  |                             |                                 |                |                           |                       |                          |

**NOTE:** Date & initial all entries

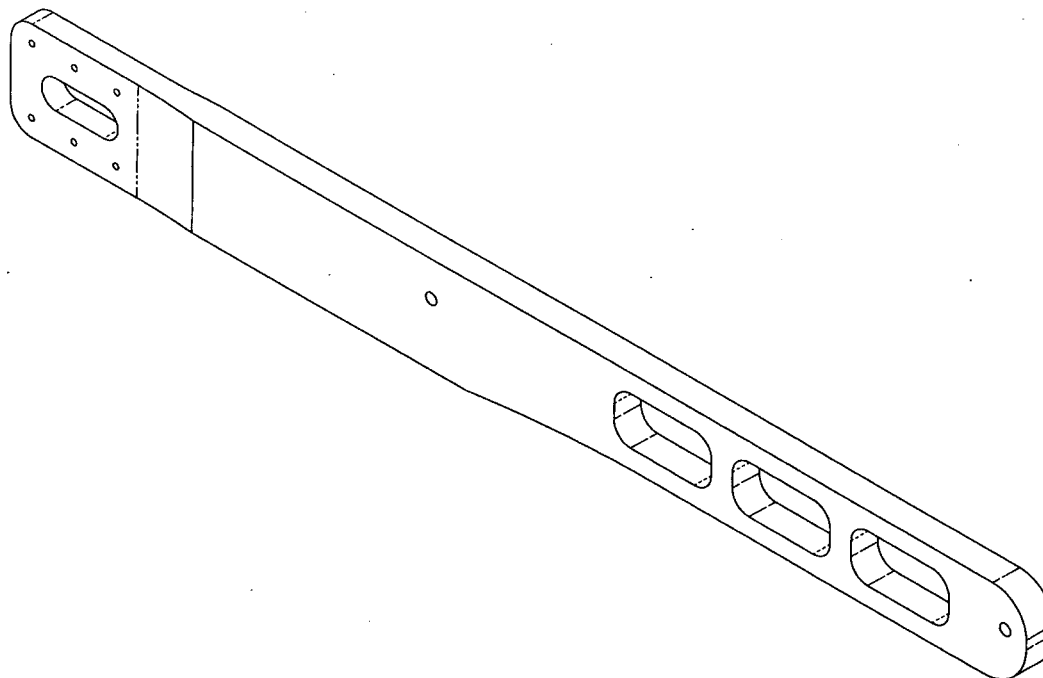
|                              |               |                     |         |
|------------------------------|---------------|---------------------|---------|
| <b>DART AEROSPACE LTD</b>    |               | <b>Work Order:</b>  | 82639   |
| <b>Description:</b> Aft Beam |               | <b>Part Number:</b> | D4276-1 |
| <b>Inspection Dwg:</b> D4276 | <b>Rev:</b> A | <b>Page 1 of 1</b>  |         |

### FIRST ARTICLE INSPECTION CHECKLIST

| Drawing Dimension | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments    |
|-------------------|---------------|------------------|--------|--------|----------------------|-------------|
| 0.75              | +/-0.030      | .75              | ✓      |        | FK-04                | Vern        |
| 20.500            | +/-0.010      | 20.500           | ✓      |        | FK-05                | Tape        |
| Ø0.381            | +0.000/-0.001 | .381             | ✓      |        | FK-04                | Vern - Mic. |
| 14.380            | +/-0.010      | 14.380           | ✓      |        | FK-05                | Tape        |
| R0.75             | +/-0.030      | .75              | ✓      |        | RG                   |             |
| 3.50              | +/-0.030      | 3.501            | ✓      |        | FK-04                | Vern        |
| 16.38             | +/-0.030      | 16.380           | ✓      |        | FK-05                | Tape        |
| 5.00              | +/-0.030      | 5.00             | ✓      |        | FK-04                | Vern        |
| 0.75              | +/-0.030      | .75              | ✓      |        | "                    | "           |
| 2.75              | +/-0.030      | 2.75             | ✓      |        | "                    | "           |
| 3.00              | +/-0.030      | 3.001            | ✓      |        | "                    | "           |
| 1.250             | +/-0.010      | 1.250            | ✓      |        | "                    | "           |
| 4.50              | +/-0.030      | 4.50             | ✓      |        | "                    | "           |
| 0.734             | +/-0.010      | .731             | ✓      |        | "                    | "           |
| 0.108             | +/-0.010      | .106             | ✓      |        | "                    | "           |
| 36.38             | +/-0.030      | 36.38            | ✓      |        | FK-05                | Tape        |
| 0.95              | +/-0.030      | .947             | ✓      |        | FK-04                | Vern        |
| 0.60              | +/-0.030      | .597             | ✓      |        | "                    | "           |
| 2.70              | +/-0.030      | 2.699            | ✓      |        | "                    | "           |
| 1.10              | +/-0.030      | 1.10             | ✓      |        | "                    | "           |
| 1.25              | +/-0.030      | 1.245            | ✓      |        | "                    | "           |
| 0.75              | +/-0.030      | .75              | ✓      |        | "                    | "           |
| 3.000             | +/-0.010      | 3.000            | ✓      |        | "                    | "           |
| 1.500             | +/-0.010      | 1.500            | ✓      |        | "                    | "           |
| Ø0.191            | +0.005/-0.001 | .195             | ✓      |        | "                    | "           |
| 2.300             | +/-0.010      | 2.300            | ✓      |        | "                    | "           |
| 3.50              | +/-0.030      | 3.498            | ✓      |        | "                    | "           |
| R0.60             | +/-0.030      | .60              | ✓      |        | RG                   |             |
| 1.70              | +/-0.030      | 1.698            | ✓      |        | FK-04                | Vern        |
| 0.65              | +/-0.030      | .65              | ✓      |        | "                    | "           |

|                     |          |                    |             |                              |  |
|---------------------|----------|--------------------|-------------|------------------------------|--|
| <b>Measured by:</b> | FK       | <b>Audited by:</b> | [Signature] | <b>Preliminary Approval:</b> |  |
| <b>Date:</b>        | 12/05/14 | <b>Date:</b>       | 12/05/15    | <b>Date:</b>                 |  |

| Rev | Date     | Change    | Revised by     | Approved    |
|-----|----------|-----------|----------------|-------------|
| A   | 11.08.22 | New Issue | KJ [Signature] | [Signature] |



**D4276-1 AFT BEAM**

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 82639 MLJ  
12/04/04

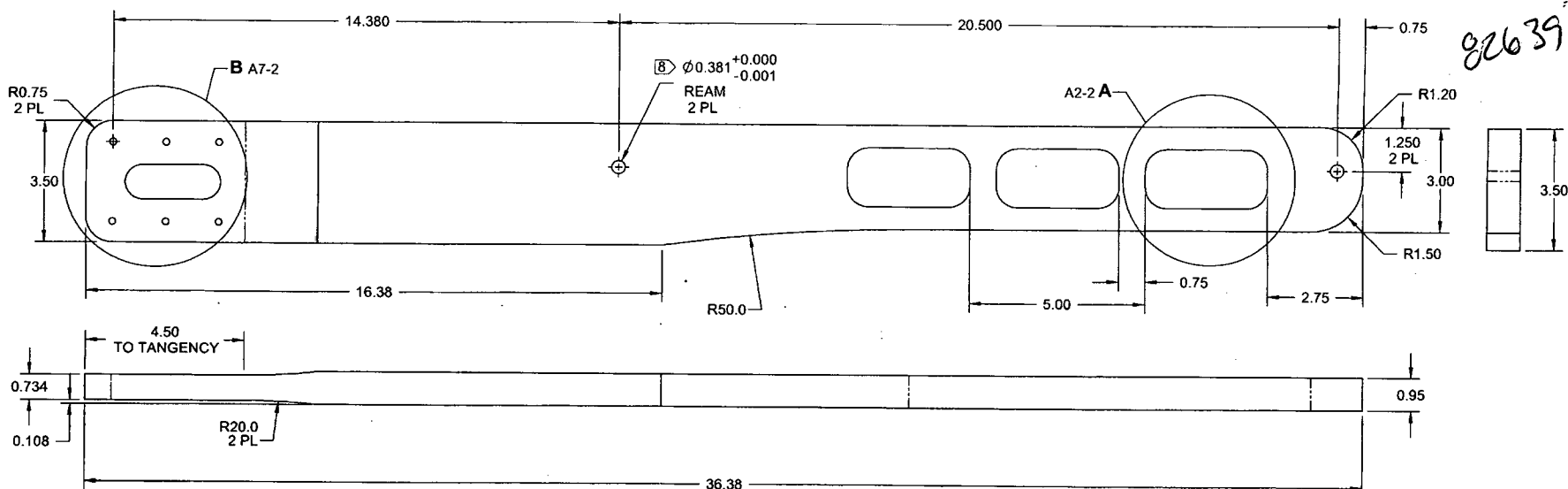
RELEASE  
2010-11-30

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)  
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)  
OR ASTM B211 OR ASTM B221  
REF DART SPEC M6061T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 8.68 lbs
- 8) MASK HOLES PRIOR TO POWDER COAT.

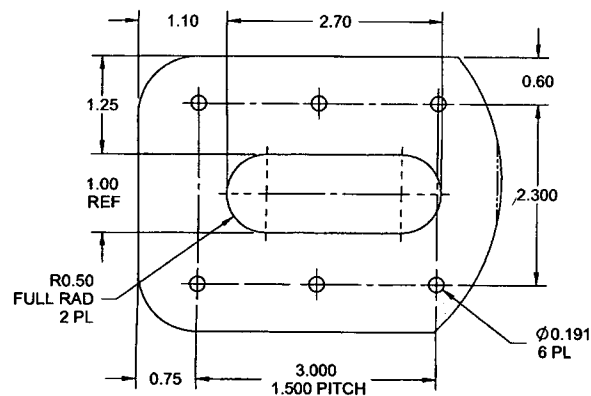
|            |                    |   |              |
|------------|--------------------|---|--------------|
| A          | NEW ISSUE          | SC  | 10.11.25     |
| REV.       | DESCRIPTION        |   | BY DATE      |
| DESIGN     | SC                 | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA  |              |
| DRAWN      | JPH                |   |              |
| CHECKED    | <i>[Signature]</i> | DRAWING NO.   | REV. A       |
| MFG. APPR. | <i>[Signature]</i> | D4276   | SHEET 1 OF 2 |
| APPROVED   | <i>[Signature]</i> | TITLE   | SCALE        |
| DE APPR.   | <i>[Signature]</i> | AFT BEAM  | NTS          |
| DATE       | 10.11.25           | COPYRIGHT © 2010 BY DART AEROSPACE LTD<br><small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small> |              |

8 7 6 5 4 3 2 1

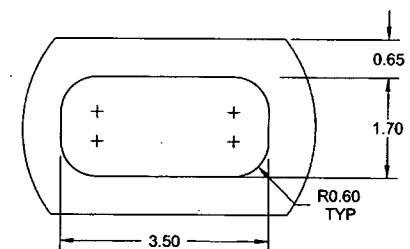


**D4276-1 AFT BEAM**

GRAIN  
DIRECTION



**DETAIL B D7-2**



**DETAIL A D3-2**  
3 PL

RELEASED  
2010-11-30

|            |          |  |              |
|------------|----------|--|--------------|
| DESIGN     | SC       | <b>DART AEROSPACE LTD</b>  |              |
| DRAWN      | JPH      | HAWKESBURY, ONTARIO, CANADA  |              |
| CHECKED    |          | DRAWING NO.  | REV. A       |
| MFG. APPR. |          | <b>D4276</b>   | SHEET 2 OF 2 |
| APPROVED   |          | TITLE  | SCALE        |
| DE APPR.   |          | <b>AFT BEAM</b>  | NTS          |
| DATE       | 10.11.25 | COPYRIGHT © 2010 BY DART AEROSPACE LTD<br>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS<br>NOT TO BE USED FOR ANY PURPOSE OR COPIED OR DISSEMINATED TO ANY OTHER PERSON WITHOUT<br>WRITTEN PERMISSION FROM DART AEROSPACE LTD. |              |

